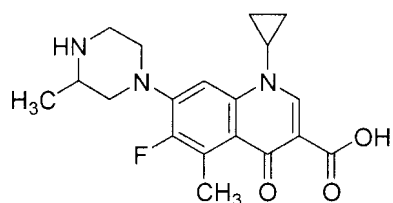


<The structure of pharmaceutically active material of the present invention comprising quinoline-based antimicrobial material and the other material>

1) Grepafloxacin (M.K INDEX 4567)



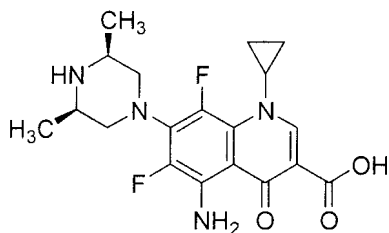
$C_{19}H_{22}FN_3O_3$   
Exact Mass: 359.16  
Mol. Wt.: 359.39  
C, 63.50; H, 6.17; F, 5.29; N, 11.69; O, 13.36

# Full name

1- Cyclopropyl-6-fluoro-1,4-dihydro-5-methyl-7-(3-methyl-1-piperazinyl)-4-oxo-3-quinolinecarboxylic acid

# Dihydrate, mp : 190 ~ 192°C

2) Sparfloxacin (M.K INDEX 8884)



$C_{19}H_{22}F_2N_4O_3$   
Exact Mass: 392.17  
Mol. Wt.: 392.40  
C, 58.16; H, 5.65; F, 9.68; N, 14.28; O, 12.23

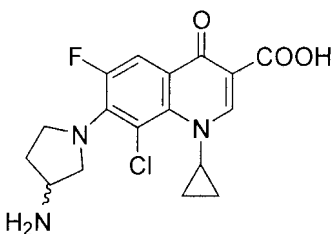
# Full name

(cis)-5-amino-1-cyclopropyl-7-(3,5-dimethyl-1-piperazinyl)-6,8-difluoro-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid

# Crystal from chloroform+EtOH mp : 266 ~ 269°C(dec.)

# pKa<sub>1</sub> : 6.25, pKa<sub>2</sub> : 9.30

3) Clinafloxacin

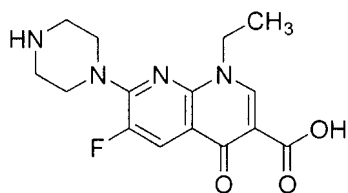


$C_{17}H_{17}ClFN_3O_3$   
Exact Mass: 365.09  
Mol. Wt.: 365.79  
C, 55.82; H, 4.68; Cl, 9.69; F, 5.19; N, 11.49; O, 13.12

# Full name :

7-(3-Amino-pyrrolidin-1-yl)-8-chloro-1-cyclopropyl-6-fluoro-4-oxo-1,4-dihydro-quinoline-3-carboxylic acid

4) Enoxacin (M.K INDEX 3625)



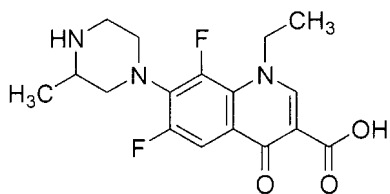
$C_{15}H_{17}FN_4O_3$   
 Exact Mass: 320.13  
 Mol. Wt.: 320.32  
 C, 56.24; H, 5.35; F, 5.93; N, 17.49; O, 14.98

# Full name:

1- Ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-1,8-naphthyridine-3-carboxylic acid

# Crystal from EtOH/MC mp : 220 ~ 224 °C

5) Lomefloxacin (M.K INDEX 5592)



$C_{17}H_{19}F_2N_3O_3$   
 Exact Mass: 351.14  
 Mol. Wt.: 351.35  
 C, 58.11; H, 5.45; F, 10.81; N, 11.96; O, 13.66

# Full name

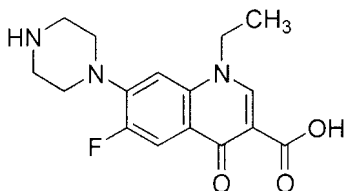
1- Ethyl-6,8-difluoro-1,4-dihydro-7-(3-methyl-1-piperazinyl)-4-oxo-3-quinolinecarboxylic acid

2-

# Colorless needle from EtOH, mp : 239 ~ 240.5 °C

# Colorless needle from water, mp : 290 ~ 300 °C (dec.)

6) Norfloxacin (M. K INDEX 6793)



$C_{16}H_{18}FN_3O_3$   
 Exact Mass: 319.13  
 Mol. Wt.: 319.33  
 C, 60.18; H, 5.68; F, 5.95; N, 13.16; O, 15.03

# Full name :

1- Ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinolinecarboxylic acid

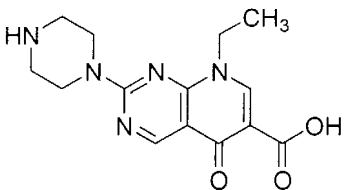
# White to light-yellow crystalline powder mp : 220 ~ 221 °C

# Soly at 25 °C (mg/ml) : water 0.28, MeOH 0.98, EtOH 1.9, Acetone 5.1, Chloroform 5.5, diethyl ether 0.01, benzene 0.15, EA 0.94, octyl alcohol 5.1, glacial AcOH 340

Solubility in water is pH dependent, increasing sharply at pH<5 or pH>10

# Hygroscopic in air, forms hemihydrate

7) Pipemidic Acid (M.K INDEX 7613)



$C_{14}H_{17}N_5O_3$   
 Exact Mass: 303.13  
 Mol. Wt.: 303.32  
 C, 55.44; H, 5.65; N, 23.09; O, 15.82

# Full name :

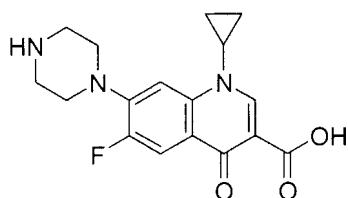
8-Ethyl-5,8-dihydro-5-oxo-2-(1-piperazinyl)pyrido[2,3-d]pyrimidine-6-carboxylic acid

# Yellowish-white, odorless, bitter tasting crystal. mp : 253 ~ 255 °C

# Hygroscopic, yellows slowly in light, Sol in acid soln and alkaline. Very slightly sol in water, alcohol ; slightly in chloroform(0.5%), MeOH(0.4%); Partically insol in ether, benzene

# Trihydrate, nearly colorless needles m.p : 253 ~ 255 °C

#### 8) Ciprofloxacin (M.K INDEX 2374)



$C_{17}H_{18}FN_3O_3$   
Exact Mass: 331.13  
Mol. Wt.: 331.34  
C, 61.62; H, 5.48; F, 5.73; N, 12.68; O, 14.49

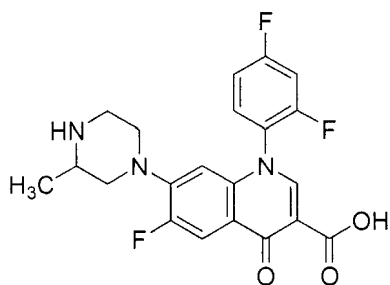
# Full name

1- Cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinolinecarboxylic acid

# Dec 255 ~ 257 °C

# cf Monohydrochloride monohydrate : Light yellow crystalline powder. mp : 318 ~ 320 °C

#### 9) Temafloxacin(M.K INDEX 9284)



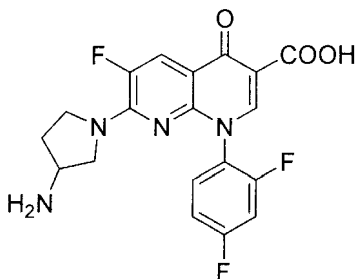
$C_{21}H_{18}F_3N_3O_3$   
Exact Mass: 417.13  
Mol. Wt.: 417.38  
C, 60.43; H, 4.35; F, 13.66; N, 10.07; O, 11.50

# Full name :

1-(2,4-Difluorophenyl)-6-fluoro-1,4-dihydro-(3-methyl-1-piperazinyl)-4-oxo-3-quinolinecarboxylic acid

# Hydrochloride

#### 10) Tosufloxacin

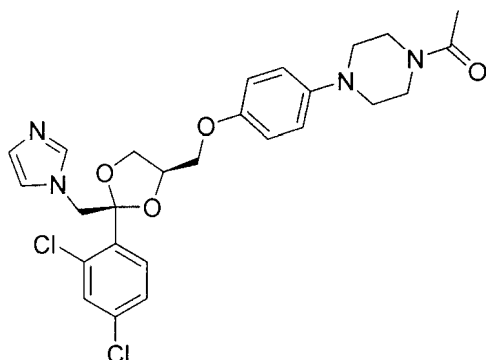


$C_{19}H_{15}F_3N_4O_3$   
Exact Mass: 404.11  
Mol. Wt.: 404.34  
C, 56.44; H, 3.74; F, 14.10; N, 13.86; O, 11.87

# Full name :

7-(3-Amino-pyrrolidin-1-yl)-1-(2,4-difluoro-phenyl)-6-fluoro-4-oxo-1,4-dihydro-[1,8]naphthyridine-3-carboxylic acid

#### 11) Ketoconazole

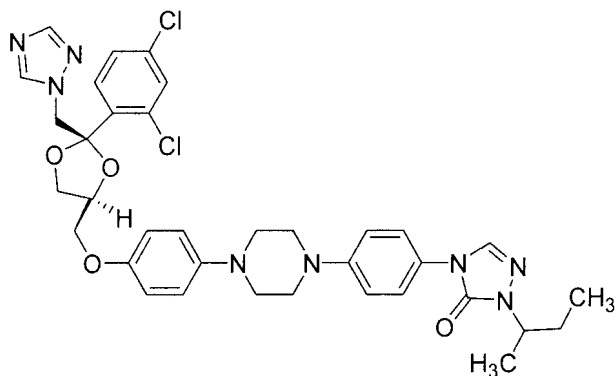


$C_{26}H_{28}Cl_2N_4O_4$   
Exact Mass: 530.15  
Mol. Wt.: 531.43  
C, 58.76; H, 5.31; Cl, 13.34; N, 10.54; O, 12.04

# Full name :

1-(4-{4-[2-(2,4-Dichloro-phenyl)-2-imidazol-1-ylmethyl-[1,3]dioxolan-4-ylmethoxy]-phenyl}-piperazin-1-yl)-ethanone

#### 12) Itraconazole

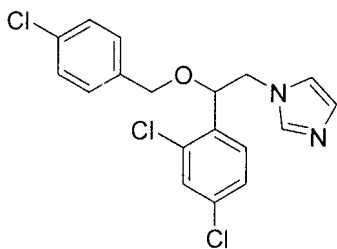


$C_{35}H_{38}Cl_2N_8O_4$   
Exact Mass: 704.24  
Mol. Wt.: 705.63  
C, 59.57; H, 5.43; Cl, 10.05; N, 15.88; O, 9.07

# Full name :

2-sec-Butyl-4-[4-(4-{4-[2-(2,4-dichloro-phenyl)-2-[1,2,4]triazol-1-ylmethyl-[1,3]dioxolan-4-ylmethoxy]-phenyl}-piperazin-1-yl)-phenyl]-2,4-dihydro-[1,2,4]triazol-3-one

#### 13) Econazole

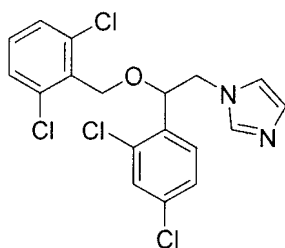


$C_{18}H_{15}Cl_3N_2O$   
Exact Mass: 380.02  
Mol. Wt.: 381.68  
C, 56.64; H, 3.96; Cl, 27.87; N, 7.34; O, 4.19

# Full name :

1-[2-(4-Chloro-benzyloxy)-2-(2,4-dichloro-phenyl)-ethyl]-1H-imidazole

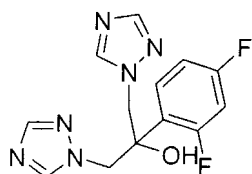
#### 14) Isoconazole



$C_{18}H_{14}Cl_4N_2O$   
 Exact Mass: 413.99  
 Mol. Wt.: 416.13  
 C, 51.95; H, 3.39; Cl, 34.08; N, 6.73; O, 3.84

# Full name :  
 1-[2-(2,6-Dichloro-benzyloxy)-2-(2,4-dichloro-phenyl)-ethyl]-1H-imidazole

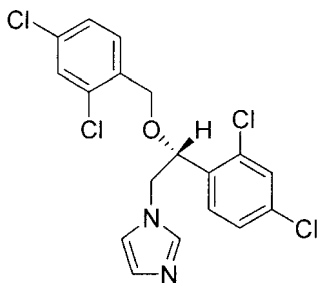
#### 15) Fluconazole



$C_{13}H_{12}F_2N_6O$   
 Exact Mass: 306.10  
 Mol. Wt.: 306.27  
 C, 50.98; H, 3.95; F, 12.41; N, 27.44; O, 5.22

# Full name :  
 2-(2,4-Difluoro-phenyl)-1,3-bis-[1,2,4]triazol-1-yl-propan-2-ol

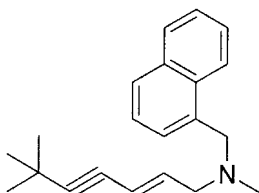
#### 16) Miconazole



$C_{18}H_{14}Cl_4N_2O$   
 Exact Mass: 413.99  
 Mol. Wt.: 416.13  
 C, 51.95; H, 3.39; Cl, 34.08; N, 6.73; O, 3.84

# Full name :  
 1-[2-(2,4-Dichloro-benzyloxy)-2-(2,4-dichloro-phenyl)-ethyl]-1H-imidazole

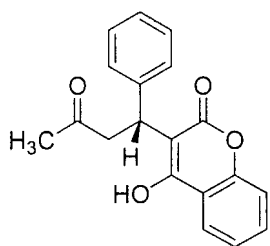
#### 17) Terbinafin



$C_{21}H_{25}N$   
 Exact Mass: 291.20  
 Mol. Wt.: 291.43  
 C, 86.55; H, 8.65; N, 4.81

# Full name :  
 (6,6-Dimethyl-hept-2-en-4-ynyl)-methyl-naphthalen-1-ylmethyl-amine

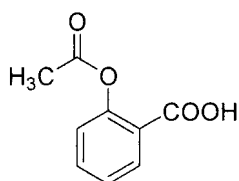
#### 18) Warfarin



$C_{19}H_{16}O_4$   
 Exact Mass: 308.10  
 Mol. Wt.: 308.33  
 C, 74.01; H, 5.23; O, 20.76

# Full name :  
 4-Hydroxy-3-(3-oxo-1-phenyl-butyl)-chromen-2-one

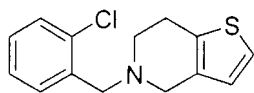
#### 19) Aspirin



$C_9H_8O_4$   
 Exact Mass: 180.04  
 Mol. Wt.: 180.16  
 C, 60.00; H, 4.48; O, 35.52

# Full name :  
 2-Acetoxy-benzoic acid

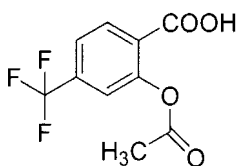
#### 20) Ticlopidine



$C_{14}H_{14}ClNS$   
 Exact Mass: 263.05  
 Mol. Wt.: 263.79  
 C, 63.74; H, 5.35; Cl, 13.44; N, 5.31; S, 12.16

# Full name :  
 5-(2-Chloro-benzyl)-4,5,6,7-tetrahydro-thieno[3,2-c]pyridine

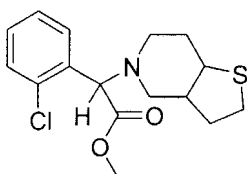
#### 21) Triflusal



$C_{10}H_7F_3O_4$   
 Exact Mass: 248.03  
 Mol. Wt.: 248.16  
 C, 48.40; H, 2.84; F, 22.97; O, 25.79

# Full name :  
 2-Acetoxy-4-trifluoromethyl-benzoic acid

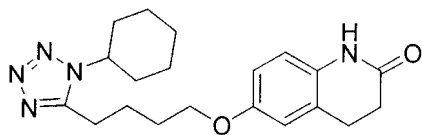
#### 22) Clopidogrel



$C_{16}H_{20}ClNO_2S$   
 Exact Mass: 325.09  
 Mol. Wt.: 325.85  
 C, 58.97; H, 6.19; Cl, 10.88; N, 4.30; O, 9.82; S, 9.84

# Full name :  
 (2-Chloro-phenyl)-(hexahydro-thieno[3,2-c]pyridin-5-yl)-acetic acid methyl ester

23) Cilostazole



$C_{20}H_{27}N_5O_2$   
Mol. Wt.: 369.46

# Full name :

6-[4-(1-Cyclohexyl-1H-tetrazol-5-yl)-butoxy]-3,4-dihydro-1H-quinolin-2-one